



EMS MATCHING GRANT APPLICATION

**FLORIDA DEPARTMENT OF HEALTH
Emergency Medical Services Program**

Complete all items unless instructed differently within the application

Type of Grant Requested: Rural Matching

ID. Code (The State Bureau of EMS will assign the ID Code – leave this blank) _____

1. <u>Organization Name:</u> Hernando County, Florida	
2. <u>Grant Signer:</u> (The applicant signatory who has authority to sign contracts, grants, and other legal documents. This individual must also sign this application)	
Name: Elizabeth Narverud	
Position Title: Chairman, Hernando County Board of County Commissioners	
Address: 15470 Flight Path Drive	
City: Brooksville	County: Hernando
State: Florida	Zip Code: 34604
Telephone: 352-754-4841	Fax Number:
E-Mail Address: enarverud@hernandocounty.us	

3. <u>Contact Person:</u> (The individual with direct knowledge of the project on a day-to-day basis and responsibility for the implementation of the grant activities. This person may sign project reports and may request project changes. The signer and the contact person may be the same.)	
Name: Paul Hasenmeier MPA, EFO	
Position Title: Fire Chief and Public Safety Director	
Hernando County Fire Rescue	
Address: 15470 Flight Path Drive	
City: Brooksville	County: Hernando
State: Florida	Zip Code: 34604
Telephone: 352-754-5810	Fax Number:
E-Mail Address: phasenmeier@co.hernando.fl.us	

4. Legal Status of Applicant Organization (Check only one response):

- (1) Private Not for Profit [Attach documentation-501(c)(3)]
- (2) Private for Profit
- (3) City/Municipality/Town/Village
- (4) County
- (5) State
- (6) Other (specify): _____

5. Federal Tax ID Number (Nine Digit Number): VF 59-1155275 __ _

6. EMS License Number: 2703 Type: Transport Non-transport Both

7. Number of permitted vehicles by type: _____ BLS; 16 ALS Transport; 16 ALS non-transport.

8. Type of Service (check one): Rescue; Fire; Third Service (County or City Government, non-fire); Air ambulance; Fixed wing; Rotowing; Both; Other (specify) _____.

9. Medical Director of licensed EMS provider: If this project is approved, I agree by signing below that I will affirm my authority and responsibility for the use of all medical equipment and/or the provision of all continuing EMS education in this project. **[No signature is needed if medical equipment and professional EMS education are not in this project.]**

Signature: _____ Date: _____

Print/Type: Name of Director Dr. Roderick Bennett

FL Med. Lic. No. ME98577

Note: All organizations that are not licensed EMS providers must obtain the signature of the medical director of the licensed EMS provider responsible for EMS services in their area of operation for projects that involve medical equipment and/or continuing EMS education.

If your activity is a research or evaluation project, omit Items 10, 11, 12, 13, and skip to Item Number 14. Otherwise, proceed to Item 10 and the following items.

10. Justification Summary: Provide on no more than three one sided, double spaced pages a summary addressing this project, covering each topic listed below.

- A) Problem description (Provide a narrative of the problem or need).
- B) Present situation (Describe how the situation is being handled now).
- C) The proposed solution (Present your proposed solution).
- D) Consequences if not funded (Explain what will happen if this project is not funded).
- E) The geographic area to be addressed (Provide a narrative description of the geographic area).
- F) The proposed time frames (Provide a list of the time frame(s) for completing this project).
- G) Data Sources (Provide a complete description of data source(s) you cite).
- H) Statement attesting that the proposal is not a duplication of a previous effort (State that this project doesn't duplicate what you've done on other grant projects under this grant program).

Next, only complete one of the following: Items 11, 12, 13 or 14. Read all four and then select and complete the one that pertains the most to the preceding Justification Summary. Note that on all, that credible before-after differences for emergency victim data are the highest scoring items on the Matching Grants Evaluation Worksheet used by reviewers to evaluate your application form.

11. Outcome For Projects That Provide or Effect Direct Services To Emergency Victims: This may include vehicles, medical and rescue equipment, communications, navigation, dispatch, and all other things that impact upon on-site treatment, rescue, and benefit of emergency victims at the emergency scene. Use no more than two additional one-sided, double-spaced pages for your response. Include the following.

- A) Quantify what the situation has been in the most recent 12 months for which you have data (include the dates). The strongest data will include numbers of deaths and injuries during this time.
- B) In the 12 months after this project's resources are on-line, estimate what the numbers you provided under the preceding "(A)" should become.
- C) Justify and explain how you derived the numbers in (A) and (B), above.
- D) What other outcome of this project do you expect? Be quantitative and explain the derivation of your figures.
- E) How does this integrate into your agency's five-year plan?

12. Outcome For Training Projects: This includes training of all types for the public, first responders, law enforcement personnel, EMS, and other healthcare staff. Use no more than two additional one-sided, double-spaced pages for your response. Include the following:

- A) How many people received the training this project proposes in the most recent 12-month time period for which you have data (include the dates).
- B) How many people do you estimate will successfully complete this training in the 12 months after training begins?
- C) If this training is designed to have an impact on injuries, deaths, or other emergency victim data, provide the impact data for the 12 months before the training and project what the data should be in the 12 months after the training.
- D) Explain the derivation of all figures.
- E) How does this integrate into your agency's five-year plan?

13. Outcome For Other Projects: This includes quality assurance, management, administrative, and other. Provide numeric data in your responses, if possible, that bear directly upon the project and emergency victim deaths, injuries, and/or other data. Use no more than two additional one-sided, double-spaced pages for your response. Include the following.

- A) What has the situation been in the most recent 12 months for which you have data (include the dates)?
- B) What will the situation be in the 12 months after the project services are on-line?
- C) If this project is designed to have an impact on injuries, deaths, or other emergency victim data, provide the impact data for the 12 months before the project and what the data should be in the 12 months after the project.
- D) Explain the derivation of all numbers.
- E) How does this integrate into your agency's five-year plan?

Skip Item 14 and go to Item 15, unless your project is research and evaluation and you have not completed the preceding Justification Summary and one outcome item.

14. Research and Evaluation Justification Summary, and Outcome: You may use no more than three additional one-sided, double spaced pages for this item.

- A) Justify the need for this project as it relates to EMS.
- B) Identify (1) location and (2) population to which this research pertains.
- C) Among population identified in 14(B) above, specify a past time frame, and provide the number of deaths, injuries, or other adverse conditions during this time that you estimate the practical application of this research will reduce (or positive effect that it will increase).
- D) (1) Provide the expected numeric change when the anticipated findings of this project are placed into practical use.
(2) Explain the basis for your estimates.
- E) State your hypothesis.
- F) Provide the method and design for this project.
- G) Attach any questionnaires or involved documents that will be used.
- H) If human or other living subjects are involved in this research, provide documentation that you will comply with all applicable federal and state laws regarding research subjects.
- I) Describe how you will collect and analyze the data.

ALL APPLICANTS MUST COMPLETE ITEM 15.

15. Statutory Considerations and Criteria: The following are based on s. 401.113(2)(b) and 401.117, F.S. Use no more than one additional double-spaced page to complete this item. Write N/A for those things in this section that do not pertain to this project. Respond to all others.

Justify that this project will:

- A) Serve the requirements of the population upon which it will impact.
- B) Enable emergency vehicles and their staff to conform to state standards established by law or rule of the department.
- C) Enable the vehicles of your organization to contain at least the minimum equipment and supplies as required by law, rule, or regulation of the department.
- D) Enable the vehicles of your organization to have, at a minimum, a direct communications linkup with the operating base and hospital designated as the primary receiving facility.
- E) Enable your organization to improve or expand the provision of:
 - 1) EMS services on a county, multi county, or area wide basis.
 - 2) Single EMS provider or coordinated methods of delivering services.
 - 3) Coordination of all EMS communication links, with police, fire, emergency vehicles, and other related services.

10. Justification Summary

Problem description

Cardiac arrest can happen at any time. The survival rate for patients suffering cardiac arrest prior to hospital admittance is extremely low, with typically less than 8% recovery rate. While there are many possible reasons this low success rate, the two most critical are performance of proper chest compressions and amount of total hands-off time during cardiopulmonary resuscitation (CPR) (Robert A. Gyory, 2023). Hernando County has seen significant growth in the number of adults 65 and older living in the County, with this population growing 22.5% since 2010. As adults aged 65 and older are more likely to suffer from cardiovascular disease, the need for consistent and reliable early intervention is critical for the overall health and safety for the County.

Present situation

Currently, Hernando County Fire Rescue has seven automated cardiopulmonary resuscitation (CPR) units deployed throughout the fleet, located in the most active fire stations in the County. Hernando County Fire Rescue also provides advanced life support (ALS) response for the City of Brooksville. Fire/EMS personnel are actively responding to calls the majority of an average 24-hour shift, creating systematic fatigue for personnel. First responders that are chronically fatigued are at greater risk of poor physical and mental health, increased injury and decreased mental capabilities (Graham Marvin, 2023).

Proposed solution

There is a renewed focus on automated (CPR) in the United States. Devices providing this automation provide consistent rates and depths of CPR which are critical to patient experiencing cardiac arrest prior to arriving at the hospital. Maintaining a high quality of manual CPR can be difficult; an automated CPR machine not only maintains high-quality compressions; it increases thoracic pressure while the chest is compressed, increasing blood flow to the heart. (Ralph J. Frascone, 2014). Hernando County Fire Rescue is seeking to purchase an additional 17 automated CPR units: 14 for units within the HCFR jurisdiction and 3 within the City of Brooksville.

While Hernando County Fire Rescue provides advanced life support response for the city, providing the automated CPR units would greatly increase the initial response effectiveness of the basic life support functions provided by the City of Brooksville Fire Rescue.

Consequences if not funded

As Hernando County continues to grow, and the percentage of adults 65+ continues to remain higher than surrounding jurisdictions, the need for high quality CPR will become increasingly more important. Without the implementation of the automatic CPR machines, Hernando County Fire Rescue has the potential of increasing cardiac arrest related deaths due to firefighter fatigue, increased response times for calls for service, and lack of consistent compressions when completed manually.

Geographic area to be addressed

Hernando County is located on the central-west coast of Florida north of Tampa Bay. It is bounded by the Gulf of Mexico on the west, Citrus County to the north, Sumter County to the east, and Pasco County to the south. Hernando County stretches 37 miles east to west, and 18 miles north to south for a total of 478.3 square miles (Census Bureau, 2023). The County currently has 14 fire stations, with 3 additional stations slated for construction in the next two years.

Between 2010 and 2022 the county’s population grew an average of 1.5% per year, for a total of 206,896 residents in 2022. Between 2021 and 2022 alone, the population grew by 3.1% (Our Changing Population: Hernando County, Florida, 2023).

Proposed Timeframes

Action Required	Personnel Responsible	Completion Date
Purchase 17 Mechanical CPR devices	Hernando County Fire Rescue	3 months after grant award
Implement on ALS Transport Units	Hernando County Fire Rescue	1 month after grant award

Statement attesting that the proposal is not a duplication of a previous effort

While Hernando County Fire Rescue has received the EMS Matching Grant for automatic CPR machines in the past, due to the population growth in the County, the need for these machines has increased. The machines requested in this application are not replacements of machines purchased through previous grant cycles; they are additional units that will be placed in fire stations throughout the County and the City of Brooksville not already served.

Data Sources

Census Bureau. (2023, December 18). Retrieved from www.census.gov

Graham Marvin, B. S. (2023, December 18). *Occupation-Induced Fatigue and Impacts on Emergency First Responders: A Systematic Review.* Retrieved from National Library of Medicine: National Center for Biotechnology Information:
<https://pubmed.ncbi.nlm.nih.gov/37998287/#:~:text=EFRs%20that%20are%20consistently%20fatigued,cognitive%20function%2C%20and%20increased%20injuries.>

Our Changing Population: Hernando County, Florida. (2023, December 18). Retrieved from USA Facts:
<https://usafacts.org/data/topics/people-society/population-and-demographics/our-changing-population/state/florida/county/hernando-county/>

Ralph J. Frascone, M. F. (2014). The Risk versus Benefit of LUCAS: Is It Worth It? *Anesthesiology*, 2. Retrieved from <https://pubs.asahq.org/anesthesiology/article/120/4/797/11777/The-Risk-versus-Benefit-of-LUCAS-Is-Worth-It>

Robert A. Gyory, B. S.-P.-P. (2023, December 18). *National Library of Medicine - National Center for Biotechnology Medicine.* Retrieved from The Efficacy of LUCAS in Prehospital Cardiac Arrest Scenarios: A Crossover Mannequin Study: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5391893/>

11. Outcome for Projects That Provide or Effect Direct Services to Emergency Victims

Needs Assessment Data

Automated Cardiopulmonary Resuscitation (CPR) machines have been in use within the Hernando County Fire Rescue operation since 2012. Since 2018, the percentage of calls where the LUCAS devices have been utilized has increased, with the devices becoming a more prominent asset in positive health outcomes for Hernando County residents. Currently, approximately 60% of cardiac calls are still run without the utilization of any automated cardiac assistance. Additionally, Hernando County Fire Rescue (HCFR) has seen a 50% increase in cardiac arrest calls for service from 2018 to 2023, further justifying the need for the additional devices.

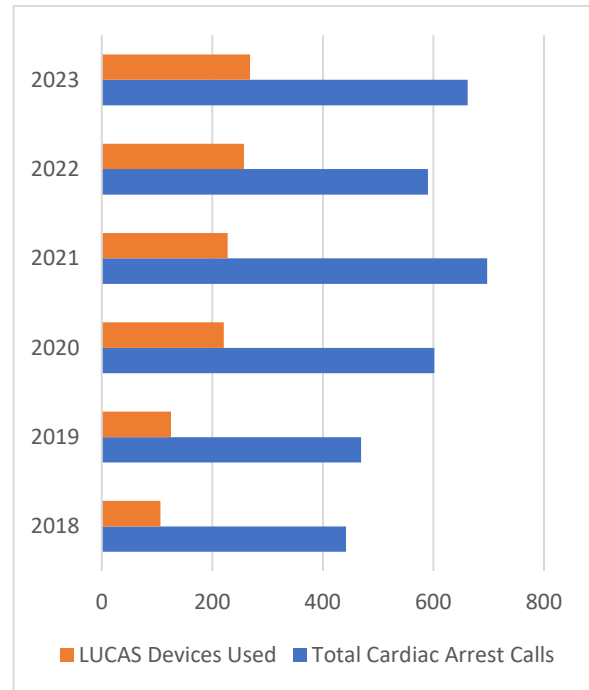


Figure 1: Trends in cardiac calls, utilization of automated CPR machines, and successful ROSC with LUCAS devices used.

In 2023, HCFR ran a total of 22,857 emergency calls. Of those, 662 were cardiac calls. LUCAS automatic CPR machines were used in 40.48% of the cardiac calls, with 32.84% of such calls resulting in returned spontaneous circulation.

Over the past 6 years, the automated CPR devices have provided successful return of spontaneous circulation (ROSC) outcomes for an average of 43% of cardiac arrest calls within the County. The increased access to automated devices will allow a greater percentage of the total population to benefit from the devices and increase the positive health outcomes for the community.

Year	Percent ROSC
2018	76.42%
2019	51.20%
2020	37.10%
2021	40.79
2022	24.90
2023	32.84%

Table 1: Percent Successful ROSC with use of automated CPR machine, 2018-2023

Proposed Outcomes

In the next twelve months, it is anticipated that Hernando County and City of Brooksville Fire Rescue will see an increase to 100% of cardiac calls with the use of automated CPR machines. With the implementation of these devices, approximately 230 residents per year will have positive health outcomes and ROSC.

Justification

The proposed outcomes are based on the average positive outcomes on calls with LUCAS automated CPR machines over the past six years. On average, LUCAS automated CPR machines provided 43% positive outcomes on cardiac arrest calls. If these units are installed on all vehicles in the fleet for both Hernando County and the City of Brooksville, it can be reasonably anticipated that the same success rate will occur for all Hernando County and City of Brooksville cardiac arrest patients.

Other Anticipated Outcomes

In addition to the primary outcomes as indicated, all Fire Rescue personnel will be less chronically fatigued. By utilizing automated CPR machines, personnel will not be as fatigued due to the reduction in physical labor needed to sustain life on these cardiac calls. The automated machines will also reduce back stress and injuries caused by manual CPR. While there is no direct impact to call times themselves, the time utilization will become more efficient with the use of these machines.

Consistency with Five-Year Plan

HCFR has plans to expand and enhance services throughout the entire County, including the construction of three new fire stations in currently underserved communities. Additionally, Hernando County Fire Rescue is continuing to provide advanced life support functions for the City of Brooksville.

15. Statutory Considerations and Criteria

Justify that this project will:

A) Serve the requirements of the population upon which it will impact.

Hernando County has seen significant growth in the number of adults 65 and older living in the County, with this population growing 22.5% since 2010. As adults aged 65 and older are more likely to suffer from cardiovascular disease, the need for consistent and reliable early intervention is critical for the overall health and safety for the County. Automated CPR machines have an average success rate of 43% for ROSC in Hernando County cardiac arrest patients pre-hospitalization. Increased access to these machines will increase ROSC success rates for all residents, to include the City of Brooksville and regardless of location within the community.

B) Enable emergency vehicles and their staff to conform to state standards established by law or rule of the department. N/A

C) Enable the vehicles of your organization to contain at least the minimum equipment and supplies as required by law, rule, or regulation of the department. N/A

D) Enable the vehicles of your organization to have, at a minimum, a direct communications linkup with the operating base and hospital designated as the primary receiving facility. N/A

E) Enable your organization to improve or expand the provision of: 1) EMS services on a county, multi county, or area wide basis; 2) Single EMS provider or coordinated methods of delivering services; 3) Coordination of all EMS communication links, with police, fire, emergency vehicles, and other related services.

Hernando County Fire Rescue serves as the advance life support (ALS) unit for the City of Brooksville. As such, having the automated CPR machines will assist in ensuring that the highest level of service will be provided to all Hernando County residents. Additionally, the City of Brooksville has requested three units for their basic life support (BLS) units to provide more effective service at initial dispatch. Also, as Hernando County is growing, all fire stations throughout the community have seen increased calls for service. Providing the automated CPR machines will allow for a higher quality of care and improved health outcomes for all Hernando County residents, mutual aid calls and disaster relief calls.

16. Work activities and time frames: Indicate the major activities for completing the project (use only the space provided). Be reasonable, most projects cannot be completed in less than six months and if it is a communications project, it will take about a year. Also, if you are purchasing certain makes of ambulances, it takes at least nine months for them to be delivered after the bid is let.

Work Activity	Number of Months After Grant Starts	
	Begin	End
Purchase of equipment	1 month	4 month
Deployment of equipment	5 th month	

17. County Governments: If this application is being submitted by a county agency, describe in the space below why this request cannot be paid for out of funds awarded under the state EMS county grant program. Include in the explanation why any unspent county grant funds, which are now in your county accounts, cannot be allocated in whole or part for the costs herein.

The purchase of 17 Lucas devices exceeds the award of the EMS county grant. The EMS county grant will be utilized to purchase AED defibrillators.

18. <u>Budget:</u>		
Salaries and Benefits: For each position title, provide the amount of salary per hour, FICA per hour, fringe benefits, and the total number of hours.	Costs	Justification: Provide a brief justification why each of the positions and the numbers of hours are necessary for this project.
TOTAL:	<u>\$ 0.00</u>	Right click on 0.00 then left click on "Update Field" to calculate Total

Expenses: These are travel costs and the usual, ordinary, and incidental expenditures by an agency, such as, commodities and supplies of a consumable nature, <u>excluding</u> expenditures classified as operating capital outlay (see next category).	Costs: List the price and source(s) of the price identified.	Justification: Justify why each of the expense items and quantities are necessary to this project.
TOTAL:	<u>\$ 0.00</u>	Right click on 0.00 then left click on "Update Field" to calculate Total

Vehicles, equipment, and other operating capital outlay means equipment, fixtures, and other tangible personal property of a non-consumable and non- expendable nature, <u>and</u> the normal expected life of which is 1 year or more.	Costs: List the price of the item and the source(s) used to identify the price.	Justification: State why each of the items and quantities listed is a necessary component of this project.
Automated CPR Machines	357,636.31	17 automated CPR machines at \$21,037.43 each.
TOTAL:	<u>\$357,636.31</u>	Right click on 0.00 then left click on "Update Field" to calculate Total

State Amount (Check applicable program) <input checked="" type="checkbox"/> Matching: 75 Percent <input type="checkbox"/> Rural: 90 Percent	 <u>\$268,227.23</u> <u>\$ 0.00</u>	 Right click on 0.00 then left click on "Update Field" to calculate Total Right click on 0.00 then left click on "Update Field" to calculate Total
Local Match Amount (Check applicable program) <input checked="" type="checkbox"/> Matching: 25 Percent <input type="checkbox"/> Rural: 10 Percent	 <u>\$89,409.08</u> <u>\$ 0.00</u>	 Right click on 0.00 then left click on "Update Field" to calculate Total Right click on 0.00 then left click on "Update Field" to calculate Total
Grand Total	<u>\$357,636.31</u>	Right click on 0.00 then left click on "Update Field" to calculate Total

19. Certification:	
My signature below certifies the following.	
I am aware that any omissions, falsifications, misstatements, or misrepresentations in this application may disqualify me for this grant and, if funded, may be grounds for termination at a later date. I understand that any information I give may be investigated as allowed by law. I certify that to the best of my knowledge and belief all of the statements contained herein and, on any attachments, are true, correct, complete, and made in good faith.	
I agree that any and all information submitted in this application will become a public document pursuant to Section 119.07, F.S. when received by the Florida Bureau of EMS. This includes material which the applicant might consider to be confidential or a trade secret. Any claim of confidentiality is waived by the applicant upon submission of this application pursuant to Section 119.07, F.S., effective after opening by the Florida Bureau of EMS.	
I accept that in the best interests of the State, the Florida Bureau of EMS reserves the right to reject or revise any and all grant proposals or waive any minor irregularity or technicality in proposals received, and can exercise that right.	
I, the undersigned, understand and accept that the Notice of Matching Grant Awards will be advertised in the <i>Florida Administrative Weekly</i> , and that 21 days after this advertisement is published I waive any right to challenge or protest the awards pursuant to Chapter 120, F.S.	
I certify that the cash match will be expended between the beginning and ending dates of the grant and will be used in strict accordance with the content of the application and approved budget for the activities identified. In addition, the budget shall not exceed, the department, approved funds for those activities identified in the notification letter. No funds count towards satisfying this grant if the funds were also used to satisfy a matching requirement of another state grant. All cash, salaries, fringe benefits, expenses, equipment, and other expenses as listed in this application shall be committed and used for the activities approved as a part of this grant.	
Acceptance of Terms and Conditions: If awarded a grant, I certify that I will comply with all of the above and also accept any attached grant terms and conditions and acknowledge this by signing below.	
<hr/> Signature of Authorized Grant Signer (Individual Identified in Item 2)	<hr/> / / MM / DD / YY

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THE TOP PART OF THE FOLLOWING PAGE MUST ALSO BE COMPLETED AND SIGNED.

